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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/830,434 | 04/26/2001 | Makoto Kobayashi | 109352 | 7153 |

25944 7590 07/26/2002

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EXAMINER

SHAKERI, HADI

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3723

DATE MAILED: 07/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 09/830,434 | Applicant(s) KOBAYASHI ET AL. | |
| | Examiner Hadi Shakeri | Art Unit 3723 | |

-- *Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --*
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 20-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 27-30 are vague and indefinite because it is unclear whether the claims are dependent claims or independent claims. The language as written fails to establish the scope of the claims. If the claims are dependent, i.e., "a polishing pad", they fail to further limit the parent claim. If the claims are independent, i.e., "a method of polishing", the language as written renders the scope of the claim unascertainable, (limitations not actually disclosed, i.e., those encompassed by the "a pad according to claim...").

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. in view of Applicant's Admitted Prior Art.

Roberts et al. disclose polishing pads and methods in which improved polishing pads with advantageous hydrophilic polishing material and innovative surface topography and texture are described. It describes the component and properties of the polishing pad and catalyst used in decreasing the polymerization reaction time and teaches that a preferred catalyst is "devoid"

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of transition metals, particularly zinc...(col. 6, line 9). It teaches that it is preferred that zinc is avoided in the polishing pad, therefore It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to produce a polishing pad in which a content of zinc is avoided, in view of Roberts et al. for improved polishing performance and environmental reasons.

Regarding claim 31, i.e., a polishing pad that is devoid of zinc in a CMP process of polishing a semiconductor wafer includes a finish polishing, therefore a finish polishing utilizing the polishing pad of Roberts et al. would meet the limitations.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Response to Arguments

6. Applicant's arguments filed 02/06/02 have been fully considered but they are not persuasive. Roberts et al. teaches a polishing pad comprising certain elements and properties. It teaches the "avoidance" of zinc as a catalyst and it does not require or teach the use of zinc compounds for fillers, or to increase hardness or as a stabilizer against light, lacking such


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teaching and the reference to avoid zinc, the pad of Roberts et al. is considered to meet the claim limitations, i.e., a pad devoid of zinc. The applicant's argument regarding the amount of zinc compounds, e.g., ZnO, instead of zinc is not persuasive, since avoidance of zinc would include its compounds, i.e., if there is no zinc, there is no ZnO, which would also meet the limitations of 200 or 100 ppm "or less". The argument with regards to the amount of zinc compound claimed is not persuasive since Applicant is claiming a pad with, e.g., 200 ppm or "less", which is met by a pad with no zinc. The unexpected result of using a pad with limited or no zinc compound is not disputed, however, Roberts does not teach the use of zinc compound, it discourages it, whether it is for different reasons is not relevant, e.g., environmental reasons.

Further per Applicant's argument zinc compound is "often" used in making the pad, thus there are pads made, as admitted by the Applicant, those not covered by "often", which do not use zinc compound meeting the claims limitations of no zinc compound.

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.


EILEEN M. MORGAN
PRIMARY EXAMINER

HS

July 19, 2002